

T&M PRODUCTS FOR AEROSPACE & DEFENSE

Leading Solutions for the A&D Industry

Technological acceleration, an evolving competitive landscape and new government sourcing programs for military and defense projects mean that many longstanding conventions in the A&D sector are being challenged.

Ongoing advancements in artificial intelligence, autonomous systems, robotics, the Internet of Things, 5G networks and quantum computing will have a significant impact on product design, engineering and manufacturing.

At the same time, NewSpace is pressuring traditional A&D companies to move faster and use budgets more efficiently. Government purchasing guidelines are being reworked with a focus on greater efficiency, the inclusion of non-traditional suppliers and a focus on rapid iteration, prototyping and experimentation.

These dynamics will broaden the scope of items that require testing and verification, placing additional demand on engineers and their test equipment. They will also require leading test equipment to improve operational efficiency and productivity.

Why Electro Rent?

Electro Rent has a proven track record of reducing testing costs, improving efficiency and maximizing utilization for leading companies and suppliers in the A&D sector. Our consultative approach focuses on understanding testing needs and objectives, minimizing capital expenditures and maximizing budgets.

Our large inventory ensures access to the latest equipment, and our worldwide logistics facilities offer fast shipping and global capabilities. We proudly offer modern military and defense test solutions from leading manufacturers in RF test and measurement, including Rohde & Schwarz and Keysight and Tektronix. Find out how our advisors can recommend a variety of easy-to-start rental and financing programs to fit your particular situation.

Microwave Network Analysis

Keysight
N5244B-224/29



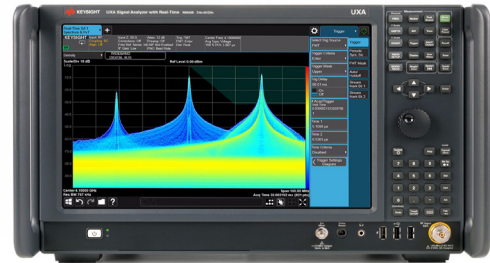
10MHz-43.5GHz 2-port PNA-X Microwave Network Analyzer with configurable test set, source attenuators and receiver attenuators, extended power range and bias tees, internal combiner and mechanical switches.

The Keysight N5244B PNA-X Network Analyzer is an integrated and flexible microwave test engine for measuring active devices like amplifiers, mixers and frequency converters. The combination of two internal signal sources, a signal combiner, S-parameter and noise receivers, pulse modulators and generators, and a flexible set of switches and RF access points provide a powerful hardware core for a broad range of linear and nonlinear measurements, all with a single set of connections to your device-under-test.

In R&D, the Keysight N5244B provides a level of measurement integrity that helps you transform deeper understanding into better designs. On the production line, the N5244B delivers the throughput and repeatability you need to transform great designs into competitive products. The Keysight N5244B PNA-X applications bring speed, accuracy, and ease-of-use to common RF measurements, in coaxial, fixtured and on-wafer environments.

UXA Signal Analysis

Keysight
N9040B-550/H1G/P50



The Keysight N9040B UXA signal analyzer is part of the X-Series spectrum analyzers, representing an evolutionary approach to signal analysis that spans instrumentation, measurement and software. It provides the flexibility to satisfy business and technical requirements across multiple products and programs.

The UXA is the flagship of the X-Series line of signal analyzers and is built on proprietary technology. The N9040B combines high-quality analysis bandwidth to 510 MHz, full-band, real-time analysis and industry-leading phase noise performance. The UXA also uses a streamlined, touch-driven interface on a large 14.1" display that simplifies measurement setup through the X-Series menu structure. With its wider, deeper views of elusive and wideband signals, the UXA enables better designs in aerospace, defense, commercial communications and more.

Waveform Generation

Keysight M8195A-004/16G/FSW/SEQ



The Keysight M8195A arbitrary waveform generator provides up to 65 GSa/s, 25 GHz bandwidth, 8 bits vertical resolution, and up to 4 channels in a 1-slot AXIe module - simultaneously.

As devices and interfaces become faster and more complex, the M8195A AWG provides versatility to create the signals needed for digital applications, advanced research, wideband radar, satcom and optical communications.

Key Facts

- Multi-level / Multi-channel digital signals - generate NRZ, PAM4, PAM8, DMT, etc. signals at up to 32 GBaud.
- Supports protocols such as HDMITM, C-PHYTM and D-PHYTM.
- Embed/De-embed channels, add Jitter, ISI, noise and other distortions.
- Electronics research – generate any mathematically defined arbitrary waveform, ultra-short yet precise pulses and extremely wideband chirps.
- Wideband RF/ μ W - generate extremely wideband RF signals with an instantaneous bandwidth of DC to 25 GHz.

Signal and Spectrum Analysis

Rohde & Schwarz FSW50/B4/B24/B1200



The R&S FSW signal and spectrum analyzer provides low phase noise, wide analysis bandwidth and straightforward and intuitive operation.

Key Facts

- Frequency range from 2 Hz to 8/13.6/26.5/43.5/50/67/85 GHz (with external harmonic mixers from Rohde & Schwarz up to 110 GHz).
- Low phase noise of -137 dBc (1 Hz) at 10 kHz offset (1 GHz carrier).
- -88 dBc dynamic range (with noise cancellation) for WCDMA ACLR measurements.
- Up to 2 GHz analysis bandwidth.
- < 0.4 dB total measurement uncertainty up to 8 GHz.
- Real-time analysis up to 512 MHz bandwidth.
- High-resolution 12.1" (31 cm) touchscreen.
- Multiple measurement applications can be run and displayed in parallel.

Phase Noise Analysis

Rohde & Schwarz
FSWP26/B1/B4/B60



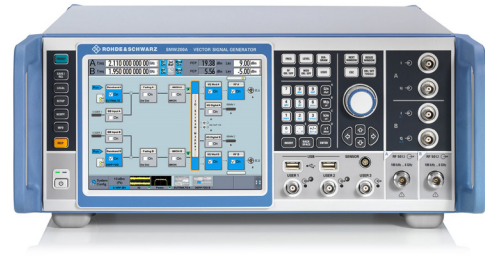
The R&S FSWP phase noise analyzer and VCO tester features very high sensitivity thanks to low-noise internal sources and cross-correlation. It can measure phase noise on highly stable sources such as those found in radar applications. Additional options such as pulsed signal measurements, additive phase noise (including pulsed) characterization, and integrated high end signal and spectrum analysis make the R&S FSWP unique.

Key Facts

- Frequency range from 1 MHz to 8/26.5/50 GHz.
- High sensitivity for phase noise measurements thanks to cross correlation and extremely low noise internal reference sources.
- Typ. -172 dBc (1 Hz) at 1 GHz carrier frequency and 10 kHz offset.
- Typ. -158 dBc (1 Hz) at 10 GHz carrier frequency and 10 kHz offset.
- Simultaneous measurement of amplitude noise and phase noise.
- Internal source for measuring additive phase noise, including on pulsed signals.
- Signal and spectrum analyzer and phase noise analyzer in a single box.
- Wide dynamic range thanks to low displayed average noise level (DANL) of -156 dBm (1 Hz) (without noise cancellation) and high TOI of typ. 25 dBm.
- 320 MHz signal analysis bandwidth.
- Total measurement uncertainty: < 0.2 dB up to 3.6 GHz, < 0.3 dB up to 8 GHz.
- Touchscreen operation.

Microwave Signal Generation

Rohde & Schwarz
SMA100B-20/HW4



The R&S SMA100B RF and microwave signal generator delivers maximum performance without compromise. It provides pure output signals while maintaining the highest output power level. It can handle the most demanding component, module and system measurement tasks in the RF semiconductor, wireless communications and aerospace and defense industries.

Key Facts

- Frequency range from 8 kHz to 3 GHz, 6 GHz, 12.75 GHz or 20 GHz.
- Excellent SSB phase noise of -152 dBc (typ.) at 1 GHz and -132 dBc (typ.) at 10 GHz, each at 20 kHz offset.
- Virtually no wideband noise -162 dBc (meas.) at 10 GHz and an offset of 30 MHz.
- Ultra-high output power.
- Up to 38 dBm with the 6 GHz instrument.
- Up to 32 dBm in the microwave frequency range with the 20 GHz instrument.
- Exceptionally low harmonics.
- State-of-the-art GUI with touchscreen.

Arbitrary Waveform Generation

Tektronix AWG70001B-150/MEM/SEQ



The AWG70000B Series Arbitrary Waveform Generator represents the leading edge in sample rate, signal fidelity and waveform memory, making it ideal for design, testing and operations of complex components, systems and experiments. With up to sample rate of 50 GS/s and 10-bit vertical resolution, it delivers an ideal signal stimulus solution for easy generation of ideal, distorted and “real-life” signals.

- A single-box solution for wideband RF signal generation, fully operational without external PC.
- Direct generation of wideband signals with carriers up to 20 GHz, removing the need for external RF conversion.
- Simulate real-world analog effects on high speed digital data streams.
- Model signal impairments up to speeds of 12.5 GB/s.
- Generate high precision RF signals. Spurious Free Dynamic Range performance better than -80 dBc.
- Create high speed baseband signals for optical transmission with the vertical resolution to handle higher order complex modulation.
- 10 bits of vertical resolution at a sample rate of 50 GS/s.
- Create long waveform scenarios without building complex sequences.
- Up to 32 GSamples of Waveform Memory plays 640 ms of data at 50 GS/s.
- Synchronize multiple units (manually or with the AWG Synchronization Hub) to achieve a multi-channel high speed AWG system.
- Built-in display and buttons make it possible to quickly select, edit and play waveforms directly from the front panel of the AWG.

About

Electro Rent is a leading global provider of test and technology solutions that enable customers to accelerate innovation and optimize asset investments. Our rental, lease, sales and asset optimization solutions serve innovators in communications, aerospace and defense, automotive, energy, education and electronics industries, and we have been doing so since 1965.

Contact Us Today

Contact us today to learn more about our complete portfolio of test and measurement solutions for Aerospace and Defense.

You can reach us by phone at **1.800.553.2255** or email **sales.na@electrorent.com**. Our advisors are available to assist with your product testing and financing needs.



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